

# IRTS Radio News Bulletin Sunday August 15th 2021

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## International Lighthouse Weekend

The third full weekend of August has become the regular date for the International Weekend for Lighthouses. Countries all over the world have become involved in lighthouse activations on HF. A few years ago the United States Congress declared the 7th of August as their National Lighthouse Day and during the event amateur radio operators in America set up portable stations at lighthouses and contact each other. Their objective is to encourage Lighthouse managers, the keepers and owners to open their lighthouse or lightstation and associated visitors centres to the public, thus raising the profile of lighthouses, lightvessels and other navigational aids, and preserving their maritime heritage.

This event is known as the US National Lighthouse Week. In Britain the Association of Lighthouse Keepers, ALK, conducts their International Lighthouse Heritage Weekend on the same August weekend as the ILLW. It came into being in 1998 as the Scottish Northern Lights Award run by the Ayr Amateur Radio Group.

The ILLW usually takes place on the 3rd weekend in August each year and attracts over 500 lighthouse entries located in over 40 countries. It is one of the most popular international amateur radio events in existence, probably because there are very few rules and it is not the usual contest type event. It is also free and there are no prizes for contacting large numbers of other stations. There is little doubt that the month of August has become "Lighthouse Month" due largely to the popularity and growth of the ILLW.

Here in Ireland, the South Eastern Amateur Radio Group (Ei2WRC) will activate Hook Lighthouse ILLW Reference Number IE0003 on Saturday and Sunday the 21st and 22nd of August. Hook Lighthouse is located on the South East coast of Ireland in Co. Wexford. The present structure is about 800 years old and is the oldest intact operational Lighthouse in the world. Hook Lighthouse offers guided tours of the lighthouse tower all year round and is one of the top things to do in Wexford and Waterford. For more information, please see [www.hookheritage.ie](http://www.hookheritage.ie)

The Hook Lighthouse will go on air provided that Government guidelines and restrictions at that time allow us to run the activation. Full social distancing and all other recommended procedures will be in place for the event. We look forward to speaking with you all on the 21st & 22nd of August 2021 from Hook Lighthouse, the oldest intact operational Lighthouse in the world for the 24th International Lighthouse & Lightship Weekend. More information at [www.lighthouse-weekend.international](http://www.lighthouse-weekend.international)

and [www.illw.net](http://www.illw.net)

And for anyone wishing to find out more about the South Eastern Amateur Radio Group and their activities you can drop them an email to [southeasternarg /at/ gmail.com](mailto:southeasternarg%40gmail.com) or please feel free to go along to any of their meetings. You can check their website [www.searg.ie](http://www.searg.ie) and you can also join them on Facebook and follow them on Twitter.

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## Icelandic WEB-SDR

The Icelandic Radio Club reports that Ari (TF1A) installed a new web-based Kiwi-SDR receiver, owned and operated by (TF3GZ), and that it has gone online in Iceland, at Bláfjöll Mountain, at an elevation of 690 meters. It can handle eight users at a time. A 70m endfed longwire covers all bands from VLF to 10m. Two further icelandic KiwiSDR receivers are already active on the internet, one is located at the west coast at Bjartangar, and the other is on Raufarhöfn. For EI experimenters, these SDR receivers form a valuable resource when checking propagation across the big pond. The addresses for those receivers, amongst others, can be found on [www.kiwisdr.com/public](http://www.kiwisdr.com/public)

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## The search for Flight MH370

John Willliam (VK4JJW) has an update on how WSPR, the Weak Signal Propagation Reporting remains a key source of hope in the search for the wreckage of the missing airliner. WSPR is undergoing some refinements to help in the search for Malaysia Airlines Flight 370, which crashed more than seven years ago in the Indian Ocean while enroute to Beijing. The low-power digital communication protocol, used by radio amateurs to test propagation, is now being employed by aerospace engineer Richard Godfrey in conjunction with a system he developed known as Global Detection and Tracking of Aircraft Anywhere Anytime, or GDTAAA. There will be some preliminary tests in conjunction with Qantas airliner data before a different blind test is conducted later this year using the Malaysia Airlines data. The goal is to see whether tracking with help from the GDTAAA system can be more successful this time around.

According to an article in AirlineRatings.com, the tests will take place in October and November with an eye toward ultimately finding the exact crash location. Two separate searches for wreckage after the 2014 crash came up empty, although more than 30 pieces of debris washed up in various places.

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## No more VP8 licences

The government of the Falklands Islands no longer issues VP8 licences for amateurs operating on the former Falkland Islands Dependencies. According to a decision made by Britain's OfCom, it looks like the islands of South Sandwich and South Georgia will be using part of the old VP4 prefix previously used for Trinidad and Tobago. It would mean VP4 and a three letter suffix beginning with A to be used for South Georgia and South Sandwich, and a three letter suffix beginning with B for the UK Antarctic Territories including the South Orkneys and South Shetlands. The VP8 prefix ceased to be used in those regions recently as a result of new communications legislation in the Falklands.

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## Scavenging electricity from waste heat

Thermoelectric generators turn waste heat into electricity, for example powering the voyager space probes, navigational bouyes in arctic waters, and the Mars rovers. They all make use of waste heat from radioactive decay, carrying a small amount of fission material with them. The generators are made from semiconductor metal wafers placed on a hot surface, and cooled on the other side. The heat pushes electrons from one side to the other, and suitably placed electrodes form the electrical poles. The tricky bit is to prevent the hot side from heating up the cold surface, or current stops flowing. So far, this complication and the high cost of these devices has prevented their widespread use. Turns out that the materials used for the first type of semiconductor rectifiers, known to older hams as selenium stacks, are making a comeback. The alloy of tin-selenide, first used nearly a hundred years ago, can be used to build a much improved thermoelectric generator. Over the past twenty years thermoelectric materials with increasing ability to isolate the heatflow from the hot to cold side have steadily improved, with the first breakthrough around 2014 using crystalline tin-selenide. But it turned out too be too brittle for practical applications.

However, making grains of polycrystalline tin selenide is cheap, and those grains can be compressed into ingots that are 3 to 5 centimeters long, a useful size for direct use as a generator. Baking off the heat-bridging oxides that are coating each grain also improves the thermal properties. When polycrystalline tin selenide is spiked with sodium atoms, it forms a p-type semiconductor, and spiking it with bromium results in an n-layer. Once paired like to a semiconductor diode they form efficient generators.

Initial use will be the scavenging of electricity from waste heat, like furnaces, boilers, combustion engines and heatpumps. But one can expect to soon find this new technology from old materials in low power radio devices, medical applications and wearables.

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## **On the HF Bands**

Jean Louis (F4FSY) is active with the callsign F4FSY/p from Ile de Oleron, sout of La Rochelle, until the 20th of August 20th. He is on the HF bands using SSB and FT8. QSL via LoTW, eQSL, by the bureau of the french radio club REF, or direct.

Members of the Union of Swiss Radio Amateurs USKA, supported by the Radio Amateur Club Swissair (HB9VC), join the celebrations around the Antarctic Treaty with the callsign HB60ANT from Zurich. They will be on air until the end of this year, drawing attention to the interesting website about the Antarctic Treaty at [www.waponline.it](http://www.waponline.it)

Pasi (OH3WS) will be active as OJ0WS from Market Reef, IOTA EU053 from Monday until the end of August. He will operate on HF Bands, CW. Recent DX Spots OJ0WS and QSL via his home call OH3WS

Also until the end of the month, Giovanni (IZ2DPX) will be active as CT8/IZ2DPX from three locations in the Azores using SSB and digi modes. His QSLs go to IK2DUW via ClubLog.

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## **The Propagation Horoscope**

The sun is not showing much turbulence, so for the next few days expect good night time DX on the lower HF bands, and good and stable conditions on the higher bands in the mornings and evenings with occasional sporadic E surprises. No sunspots are expected to come into view, the solarwind is on the lower end at 420 km per second with a low density of under two parts per cubic centimeter. The x-ray flux is a flat line without notable flares.

Although the Perseids already peaked on Thursday and Friday, it should be worthwhile to point the six or two metre band antenna towards the magnitude 2 star Mirfak and try to catch a few pings. See [www.pingjockey.net](http://www.pingjockey.net) for current conditions at the end of this year's perseids.

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That is the news for this week. Items for inclusion in next week's radio news can be submitted by email to newsteam /at/ irts.ie for automatic forwarding to both the radio and printed news services. The deadline is midnight on Friday.

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